WHAT IS CLAIMED IS:

1. An optical repeater comprising:

a first backward pumping optical coupler and a first forward pumping optical coupler inserted in a first optical fiber transferring therethrough first optical signals;

a second backward pumping optical coupler and a second forward pumping optical coupler inserted in a second optical fiber transferring therethrough second optical signals;

a first light source for supplying a first pump light having a first power level to said first backward pumping optical coupler and said second forward pumping optical coupler;

a second light source for supplying a second pump light having a second power level to said first forward pumping optical coupler and said second backward pumping optical coupler; and

a driver for driving said first and second light sources to control said first power level and said second power level.

2. The optical repeater according to claim 1, wherein each of said first and second light sources comprises a plurality of laser diodes having different emission wavelengths.

3. The optical repeater according to claim 2, wherein each of said laser diodes of said first and second light sources has a central emission wavelength different from central emission

wavelength of any of the others of said laser diodes of said first and second light source.

4. The optical repeater according to claim 1, wherein said driver controls at least one of said first and second power levels based on a power level of said first optical signals and/or a power level of said second optical signal.

5. The optical repeater according to claim 1, wherein said first backward pumping optical coupler and said first forward pumping optical coupler are arranged consecutively along a transfer direction of said first optical signals, and said second backward pumping optical coupler and said second forward pumping optical coupler are arranged consecutively along a transfer direction of said second optical signal.

6. The optical repeater according to claim 5, further comprising a first optical isolator interposed between said first backward pumping optical coupler and said first forward pumping optical coupler, and a second optical isolator interposed between said second backward pumping optical coupler and said second forward pumping optical coupler

7. The optical repeater according to claim 1, wherein each of said pumping optical couplers is a Raman amplifier.

8. The optical repeater according to claim 7, wherein said driver controls said first and second power levels so that amplification factors of said first and second optical signals by said optical repeater change independently of each other.

9. The optical repeater according to claim 7, wherein said driver controls said first and second power levels so that amplification factors of said first optical signals and said second optical signals by said optical repeater are fixed and changed, respectively.

10. The optical repeater according to claim 1, wherein each of said first and second optical fibers includes therein a rare earth doped fiber, and each of said pumping optical couplers introduces said first or second pump light to said rare earth doped fiber.

11. The optical repeater according to claim 1, wherein said driver controls at least one of said first and second power levels based on a control signal component included in said first and/or second optical signals

12. The optical repeater according to claim 1, wherein said first and second optical fibers are uplink and downlink fibers, respectively.